

REMARKS

The Application has been reviewed in light of the Office Action mailed December 10, 2004. Claims 1, 4, 6, 8, 9, and 13 have been amended. Claims 11-12 and 15 have been cancelled. Claims 16-23 have been added. Thus, claims 1-10, 13-14 and 16-23 remain pending. Reconsideration and withdrawal of all outstanding rejections and objections is requested in light of the foregoing amendments and the following remarks.

As an initial matter, Applicants agree with the Examiner's acknowledgement that claims 13 and 14 contain allowable subject matter. Claim 13 has been amended solely to clarify the claim language, and Applicants submit that claims 13 and 14 remain in condition for immediate allowance.

Claims 6-7 stand objected to under 35 U.S.C. 112 for a lack of antecedent basis for the claim phrase "the freeze-frame pixel." This objection is obviated in view of the foregoing amendments. Claims 11, 12 and 15 have been cancelled, obviating any remaining outstanding claim objections.

Claims 1, 2, 3, and 5 stand rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,264,940 to Komiya et al ("Komiya"). The rejection is traversed and reconsideration is requested.

Claim 1 has been amended to recite a method of obtaining an image signal comprising the act of "combining the short image signal and the long image signal in an analog memory in the sensor to create a total image signal." Komiya does not teach or even suggest combining a short and a long image signal "in an analog memory" as to "create a total image signal" for a CMOS sensor, as recited by claim 1. The passages of Komiya cited in the Office Action refer to utilizing a Charge Modulation Device (CMD) to create a signal for a CCD image sensor. There is no further teaching in Komiya of how the CMD would need to be altered to apply it to a CMOS sensor as constructed in the claimed invention.

For at least these reasons, withdrawal of the rejection is requested. Claims 2, 3, and 5 contain all of the limitations recited by claim 1, and should also be allowable for at least these reasons.

Claims 1-3, 5, and 8-11 stand rejected under 35 U.S.C. 102(b) as being anticipated by E.P. Patent Doc. No. 0858212 to Dierickx et al (“Dierickx”). The rejection is traversed and reconsideration is requested.

Claim 1 has been amended to recite a method of obtaining an image signal comprising the act of “combining the short image signal and the long image signal in an analog memory in the sensor to create a total image signal.” Dierickx does not teach or suggest each of these claim limitations. Specifically, for whatever Dierickx teaches regarding combination of image signals to produce a total image signal, Dierickx teaches that this would be performed by circuitry outside of the image sensor, not “in an analog memory in the sensor,” as recited by claim 1. See, e.g., [57].

For at least these reasons, withdrawal of the rejection of claim 1 is requested. Claims 2, 3, and 5 contain all of the limitations recited by claim 1, and should also be allowable for at least these reasons.

Claim 8 has been amended to recite “a first switch constructed to connect the photodetector to a reset voltage source; a second switch constructed to connect the photodetector to the analog memory for permitting transfer of a first and a second image signal collected in the photodetector during a respective first and second collection time period; and a third switch for connecting the analog memory to a reset voltage source.” For whatever Dierickx teaches regarding resetting a photodetector and a memory, Dierickx provides no teaching of a first and a third switch “being different” for performing these respective reset operations.

For at least these reasons, withdrawal of the rejection of claim 8 is requested. Claims 9-11 contain all of the limitations recited by claim 1, and should also be allowable for at least these reasons.

Claims 1-3, and 5 stand rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,278,490 to Fukuda et al (“Fukuda”). The rejection is traversed and reconsideration is requested.

Claim 1 has been amended to recite a method of obtaining an image signal comprising the act of “combining the short image signal and the long image signal in an analog memory in the sensor to create a total image signal.” Fukuda does not teach or even suggest combining a short and a long image signal “in an analog memory” as to “create a total image signal” for a CMOS sensor, as recited by claim 1. For at least these reasons, withdrawal of the rejection of claim 1 is requested. Claims 2, 3, and 5 contain all of the limitations recited by claim 1, and should also be allowable for at least these reasons.

Claims 4 and 12 stand rejected under 35 U.S.C. 103(a) based on a combination of either Komiya or Dierickx together with an Official Notice. Claims 4 and 12 depend respectively from claims 1 and 8, and contain each of the claim limitations recited therein. The Official Notices taken by the Examiner do not cure the above-described deficiencies of these references in anticipating the independent claims. Accordingly, for at least the reasons given above regarding the allowability of the independent claims, claims 4 and 12 are also allowable.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue.

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Respectfully submitted,

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